



PATENT APPLICATION
PO-7946
MD-02-19

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION OF)	
JAMES Y. J. CHUNG ET AL)	GROUP NO.: 1714
SERIAL NUMBER: 10/667,955)	
FILED: SEPTEMBER 22, 2003)	EXAMINER: P. SZEKELY
TITLE: POLYCARBONATE COMPOSITION)	

DECLARATION UNDER 37 C.F.R. '1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I, Evangelos Manias a resident of the United States declare that:

I am an Associate Professor in the Department of Material Science and Engineering in the Pennsylvania State University, University Park;

I have studied at the Aristotle University of Thessaloniki, Greece, and was awarded a B.Sc. (Ptyhio) degree in Physics in 1991;

I have continued my studies at the University of Groningen, the Netherlands, and was awarded a Ph.D. in Polymer Chemistry in 1995; and

Continued my studies (post-doctoral) in Materials Science and Engineering at Cornell University, 1995-1998.

My responsibilities at the Pennsylvania State University include research and supervision of graduate students' research, the majority of which includes substantial analyses of polymer/clay materials by X-Ray Diffraction (XRD).

I have authored more than thirty publications in peer-reviewed technical journals, including publications relating to XRD and other analytical methods applied to polymers and polymer/clay nanocomposites.

I have received from Dr. James Y.J. Chung four compositions marked B, C, D and E said by Dr. Chung to include the components listed below;

I have personally and/or under my direction and supervision analyzed these compositions to determine the 001 basal spacing (d-spacing) of the included clays.

The table below summarizes my findings:

Sample: Composition	B	C	D	E
polycarbonate [%]	97.5	95.0	97.25	94.5
clay [%]	2.5	5.0	2.5	5.0
Citric Acid [%]	0.0	0.0	0.25	0.50
d-spacing [peak,Angstrom]	29	29	27	27

The d-spacings are a measure of intercalation of the included clay.

Based on these data, I conclude that citric acid does not increase the d-spacing of the included clay.

The undersigned Declarant declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States code and that such willful false statements may jeopardize the validity of pending Application Serial Number 10,667,955 or any patent issuing thereon.

Signed at State College, PA this 1st day of May, 2006.



Evangelos Manias

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